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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/360,103	07/23/1999	MICHAEL N. GUREVICH	007532000500	3674

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EXAMINER

NGUYEN BA, HOANG VU A

ART UNIT	PAPER NUMBER
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2122

15

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

**Application**

09/360,103

**Applicant(s)**

GUREVICH ET AL.

**Examiner**

Hoang-Vu A Nguyen-Ba

**Art Unit**

2122

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-21,23-37,39-41,49-53,55-69,71-85,87-89,145-149,151-165,167-181 and 183-185 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

Continuation of Disposition of Claims: Claims pending in the application are 1-5,7-21,23-37,39-41,49-53,55-69,71-85,87-89,145-149,151-165,167-181 and 183-185.

## DETAILED ACTION

1. This action is responsive to amendment filed November 26, 2003.
2. Per Applicants' request, claims 1, 49 and 145 have been amended. Claims 1-5, 7-21, 23-37, 39-41, 49-53, 55-69, 71-85, 87-89, 145-149, 151-165, 167-181 and 183-185 are currently pending.

### *Response to Amendments and Argument(s)*

3. **Drawing Objection:**

In view of corrections made to Figures 2 and 3, the objection to the drawings is hereby withdrawn.

4. **Claim rejection under 35 U.S.C. § 101:**

In view of Applicants' amendments to claims 1 and 49 to recite that the program code providing description of an object as claimed is tangibly embodied by a computer-readable storage and executable by a computer, the rejection of these claims and the claims which depend from claims 1 and 49 under 35 U.S.C. § 101 is hereby withdrawn.

5. **Claim rejection under 35 U.S.C. § 112, second paragraph:**

In view of Applicants' persuasive arguments in response to the rejection of claims 34-37 & 39-41; 82-85 & 87-89, 178-181 & 183-185 and Applicants' clarification in response to the rejection of claims 5, 53, 149, 7, 55, 151, 9, 57, 153, 14, 62, 158, 15, 63, 159, 16, 64, 160, 21, 69, 165, 23, 71, 167, 25, 73, 169, 30, 78, 174, 31, 79, 175, 32, 80, 176, 37, 85, 181, 39, 87, 183, 41, 89, and 185, the rejection of these claims under 35 U.S.C. § 112, second paragraph is hereby withdrawn.

6. **Claim rejection under 35 U.S.C. § 102(a):**

With respect to claims 1, 49 and 145, Applicants have amended these claims to recite that the description of an object based on its one or more attributes is usable by program code outside of said object to access the stored values of said one or more attributes for externalization of said values. Further, Applicants argue that Henckel does not teach the claimed feature amended as above and that Henckel, in contrast teaches a stream that includes a separately stored and already-externalized form of an object attribute value. Henckel does not teach an object description facilitating access to an object attribute value more directly.

In response to the above argument, Applicants' attention is directed to the portion in Henckel related to the cited Figure 2 (9:60 to 10:45), where it is shown that the access to the state data and relevant address information to locate the state data of objects A and B for the sake of restoring these attributes of objects A and B at a later time (e.g., externalization of objects A and B's attributes) is maintained by the reference manager. If a description of how to access objects A and B is not provided, attribute values (state data, etc.) of objects A and B cannot be retrieved, stored and restored at a later time. Thus, the examiner considers that amended claims 1, 49 and 145 still read on Henckel and that the rejection of these claims under 35 U.S.C. § 102(a) is still proper.

7. **Claim rejection under 35 U.S.C. § 103(a):**

With respect to claims 3-5, 7, 12-15, 19-21, 23-25, 28-32, 35-41, 51-53, 55-56, 60-63, 67-69, 71-73, 76-80, 83-85, 87-89, 146-147, 149, 151, 153, 155-160, 162-165, 167-169, 171-176, 178-181, 183-185, Applicants argue that:

- a. the rejection of these claim under 35 U.S.C. § 103(a) is improper

because the stated rationale uses impermissible hindsight and is devoid of a convincing line of reasoning based on established scientific principles or legal precedent.

In response to applicants' argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicants' disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this instance, it would be within the level of ordinary skill at the time the invention was made to determine that the addition of Breslau's memory map to Henckel would improve the process of object externalization because the use of memory map would improve the ability to move objects between execution environments despite the heterogeneity thereof. This motivation is not knowledge gleaned from the applicants' disclosure.

b. Henckel teaches away from any combination that would satisfy the current claims because Henckel discloses that object's data is encapsulated by the object interface to protect the object's data from outside tampering. In response to this argument, the examiner notes that the encapsulation feature was disclosed in an overview section (4:7-5:18) in Henckel for individuals who are not familiar with object-oriented programming so that these individuals could have a better understanding of Henckel's externalization process. To conclude that the concept of encapsulation is inconsistent with that of externalization of object's attribute would thus invalidate the patent issued to Henckel, which seeks to improve the externalization process used in object-oriented programming for transferring data in

and out of an object (see Henckel, 1:66-2:3). The examiner notes that applicants' argument is taken out of Henckel's context and thus cannot be used to conclude that Henckel teaches away from any combination that would satisfy the current claims.

In view of the foregoing discussion, the examiner considers that the rejections of the currently pending claims under 35 U.S.C. § 102(a) and 103(a), reproduced herein for applicants' convenience are proper and thus maintained.

### *Claim Rejections – 35 U.S.C. § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-2, 8-11, 16-18, 24-27, 32-34, 40-41, 50, 56-59, 64-66, 72-75, 80-82, 88-89, 145, 146, 152-155, 160, 162, 168-171, 177-178, 184-185 are rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 5,864,866 to Henckel et al. ("Henckel").

### **Claims 1 and 49**

Henckel discloses at least:

*including within computer-readable storage program code defining computer operations for providing in memory at runtime a description of an object based on its one or more attributes, said description usable by program code outside of said object to access the stored values of said one or more attributes for externalization of said values* (see at least Figure 1, items 122-125; Figure 2,

“Stream A”, “Stream B”; Figure 4, “Stream A”, “Stream B”; and related discussion in the specification; discussion associated with object reference manager).

**Claims 2, 11, 18, 27, 34, 50, 59, 66, 75 and 82**

The rejection of the base claim is incorporated. Henckel further discloses *wherein the description indicates the location in memory of an attribute* (see at least 2:1-11; 10:21-45; 11:45-50; 12:32-38).

**Claims 8, 56, 24, 72, 40 and 88**

The rejection of base claim and intervening claim is incorporated. Henckel further discloses *wherein the description further indicates the type of the attribute* (see at least 3:32-35, 6:31 – 7:23).

**Claims 9 and 57**

The rejection of base claim 1 and intervening claim 2 is incorporated. Henckel further discloses *wherein the description further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

**Claims 10 and 58**

The rejection of base claim 1 is incorporated. Henckel further discloses *wherein the description comprises a list including an entry corresponding to an attribute of the object* (see at least Figure 3, “C1... Cj, Cn” and related discussion in the specification; note that “C1, ... Cn” is interpreted to be a list of referenced object attributes).



**Claims 16 and 64**

The rejection of base claim and intervening claims is incorporated. Henckel further discloses *wherein the entry further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

**Claims 17 and 65**

The rejection of base claim 1 is incorporated. Henckel further discloses *including within the program second program code apart from said object for accessing said description at runtime* (see at least Figure 3, item Cj and related discussion in the specification).

**Claims 25 and 73**

The rejection of base claim 1 and intervening claims 17-18 is incorporated. Henckel further discloses *wherein the description further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

**Claims 26 and 74**

The rejection of base claim and intervening claim is incorporated. Henckel further discloses *wherein the description comprises a list including an entry corresponding to an attribute of the object* (see at least Figure 3, "C1... Cj, Cn" and related discussion in the specification; note that "C1, ... Cn" is interpreted to be a list of referenced object attributes).

**Claims 32 and 80**

The rejection of base claim 1 and intervening claims 17, 26-27 is incorporated. Henckel further discloses *wherein the entry further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

**Claims 33 and 81**

The rejection of base claim 1 and intervening claim 17 is incorporated. Henckel further discloses *including within the program third program code apart from said object for producing a representation of an attribute of the object in a secondary format* (see at least Figure 3, item Cj and related discussion in the specification).

**Claims 41 and 89**

The rejection of base claim 1 and intervening claims 17, 33-34 is incorporated. Henckel further discloses *wherein the description further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

**Claim 145**

Claim 145 recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 1. Therefore, the same rejection is applied.

**Claims 146, 155, 162, 171 and 178**

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 2. Therefore, the same rejection is applied.

**Claims 152 and 184**

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 8. Therefore, the same rejection is applied.

**Claim 153**

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 9. Therefore, the same rejection is applied.

**Claims 154 and 170**

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 10. Therefore, the same rejection is applied.

**Claim 160**

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 16. Therefore, the same rejection is applied.

**Claims 168 and 184**

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 8. Therefore, the same rejection is applied.

**Claim 169**

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 25. Therefore, the same rejection is applied.

**Claim 177**

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 33. Therefore, the same rejection is applied.

**Claim 185**

This claim recites a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 9. Therefore, the same rejection is applied.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3-5, 7, 12-15, 19-21, 23-25, 28-32, 35-41, 51-53, 55-56, 60-63, 67-69, 71-73, 76-80, 83-85, 87-89, 146-147, 149, 151, 153, 155-160, 162-165, 167-169, 171-176, 178-181, 183-185 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,864,866 to Henckel et al. in view of U.S. Patent No. 6,345,311 to Breslau et al. ("Breslau").

**Claims 3, 12, 19, 28, 35, 51, 60, 67, 76 and 83**

The rejection of base claim and intervening claim(s) is incorporated. Henckel does not specifically disclose *wherein the description further indicates the amount of space occupied by the attribute*. However, Breslau teaches how to use the memory map to determine the location, to access, to retrieve, to impress state variable values on an object in order to improve the ability to move objects between execution environments despite the heterogeneity thereof (see at least Figures 13-14, 17-18 and related discussion to "Memory Map" in the specification).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Breslau with Henckel because the addition of Breslau's memory map feature to Henckel would improve Henckel's process of object externalization.

**Claims 4, 13, 20, 24, 29, 36, 40, 52, 56, 61, 68, 72, 77, 84 and 88**

The rejection of base claim and intervening claims is incorporated. Henckel further discloses *wherein the description further indicates the type of the attribute* (see at least 3:32-35, 6:31 – 7:23).

**Claims 5, 53, 7, 55, 14, 62, 15, 63, 21, 69, 23, 71, 25, 73, 30, 78, 31, 79, 32, 80, 37, 85, 39, 87, 41 and 89**

The rejection of base claim 1 and intervening claims 2-4 is incorporated. Henckel further discloses *wherein the description further indicates a description for the attribute that is based on the attribute's one or more component attributes if the attribute is a second object* (see at least Figure 3, item Cj and related discussion in the specification).

**Claims 147, 156, 163, 172 and 179**

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 3. Therefore, the same rejection is applied.

**Claims 149, 151, 153, 158, 159, 160, 165, 167, 169, 174, 175, 176, 181, 183 and 185**

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 5. Therefore, the same rejection is applied.

**Claims 157, 164, 168, 173, 180 and 184**

These claims recite a computer system comprising a CPU, memory and carriers of digital signals including program code signals for performing the same steps recited in claim 13. Therefore, the same rejection is applied.

*Conclusion*

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antony Nguyen-Ba whose telephone number is (703) 305-0103. The examiner can normally be reached on Tuesday-Friday from 6:15 a.m. – 3:45 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam, can be reached at (703) 305-4552.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9700.

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*Hoang-Vu "Antony" Nguyen-Ba*

**ANTONY NGUYEN-BA  
PRIMARY EXAMINER**

Hoang-Vu "Antony" Nguyen-Ba

Primary Examiner

January 27, 2004